December 2000

Subject: AT&T NexGen/Core Project
Environmental Assessment

Notice to Readers:

This Environmental Assessment was prepared for the above-referenced project under the direction of the Bureau of Land Management (BLM). In accordance with guidance received from the BLM in March 2000, the document is organized according to five point-of-presence (POP) to POP system segments between Lamesa, Texas and Los Angeles, California, including the following:

- Link One—Lamesa, Texas to El Paso, Texas
- Link Two—El Paso, Texas to Tucson, Arizona
- Link Three—Tucson, Arizona to Blythe, California
- Link Four—Blythe, California to San Diego, California
- Link Five—San Diego, California to Los Angeles, California

Information for each of the five links was prepared under separate cover for purposes of preliminary draft submittal to the BLM, which occurred during May and June, 2000. Each BLM Field Office has had an opportunity to review information for the Link(s) under its jurisdiction, and the separate cover documents have been abridged. The BLM is acting as the lead federal agency for the project. Cleveland National Forest and USMC Camp Pendleton are anticipating as cooperating agencies.

The public is invited to comment on this Environmental Assessment for 60 days from the date when the Notice of Availability is published in the Federal Register. Comments should be sent to:

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AT&T NexGen/Core Project

Environmental Assessment

Lamesa, Texas to Los Angeles, California

Lead Federal Agency
Bureau of Land Management
Cooperative Agencies
Cleveland National Forest
US Marine Corps Camp Pendleton

December 2000

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ACEC	Area of Critical Environmental Concern
ADOT	Arizona Department of Transportation
AGFD	Arizona Game and Fish Department
APE	Area of Potential Effect
BLM	Bureau of Land Management
BMP	best management practice
CDP	California Desert Conservation Area Plan
CDFG	California Department of Fish and Game
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CWA	Clean Water Act
dBA	decibels in the A-weighted scale
DWDM	Dense Wavelength Division Multiplexing
EA	Environmental Assessment
EFZ	earthquake fault zone
EPA	U.S. Environmental Protection Agency
GLO	General Land Office
gps	geographic positioning system
I-10	Interstate 10
L_{dn}	daytime and nighttime noise levels
MOA	Memorandum of Understanding
mph	mile(s) per hour
NAAQS	National Ambient Air Quality Standards
NAHC	California Native American Heritage Commission
NEPA	National Environmental Policy Act
NMDGF	New Mexico Department of Game and Fish
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NRHP	National Register of Historic Places
NWR	National Wildlife Refuge
OHV	off-highway vehicle
Op Amp	optical amplification
OSHA	Occupational Safety and Health Administration
PCAQD	Pinal County Air Quality Department
PM_{10}	particulate matter less than 10 microns in aerodynamic diameter
POP	Point of Presence
RACM	reasonably available control measure
RMP	Resource Management Plan
ROW	right-of-way
SCS	Soil Conservation Service
SHPO	State Historic Preservation Office
SR	State Route
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TXDOT	Texas Department of Transportation
USFWS	United States Fish and Wildlife Service
UWA	Unified Watershed Assessment
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UST	underground storage tank
UXO	unexploded ordnance
VRM	Visual Resource Management
WSA	Wilderness Study Area

1.1 PROJECT BACKGROUND

AT&T proposes to construct, operate, maintain, and terminate a fiber optic telecommunications system from Lamesa, Texas to Los Angeles, California (Figure 1-1). As proposed, the project would cross federal, state, and private land. This Environmental Assessment (EA) has been prepared to support AT&T's application to the United States Department of Interior, Bureau of Land Management (BLM) for a right-of-way (ROW) grant to construct, operate, and maintain the portions of the project that occur on public land. A Plan of Development (POD) has been prepared in accordance with BLM requirements outlined in BLM Handbook H-2801-I, Rights-of-Way Plans of Development. The route also crosses land managed by the United States Marine Corps, Camp Pendleton; the Cleveland National Forest; Descanso Ranger District; the Campo and the La Posta Indian Reservations; the Coachella Canal and several parcels of land managed by the U. S. Department of the Interior, Bureau of Reclamation; and a small portion of the Cibola National Wildlife Refuge (NWR) along Highway 78. Each of these federally managed lands would require similar ROW grants or special use permits for the construction, operation, and maintenance of this project. Each federal agency responsible for managing these lands is a cooperating agency under the National Environmental Policy Act (NEPA).

As lead federal agency for this action under NEPA, BLM is responsible for ensuring that potential adverse environmental effects on public land and resources are avoided or minimized. This EA has been prepared in compliance with NEPA, Council on Environmental Quality Regulations (40 Code of Federal Regulations [CFR] 1500-1508), and BLM's NEPA Handbook (H-1790-I), and includes a description of the proposed action, a statement of purpose and need for the project, and a description of the existing (i.e., affected) environment in the area of the project. In addition, this EA identifies and discloses potential environmental effects and highlights specific measures that would be incorporated into the project to avoid or lessen those effects.

The proposed project addressed by this EA consists of five point-of-presence (POP) to POP system segments (referred to as "links") between Lamesa, Texas and Los Angeles, California, including the following:

- Link One—Lamesa, Texas to El Paso, Texas—approximately 306 miles
- Link Two—El Paso, Texas to Tucson, Arizona—approximately 320 miles
- Link Three—Tucson, Arizona to Blythe, California—approximately 326 miles
- Link Four—Blythe, California to San Diego, California—approximately 220 miles
- Link Five—San Diego, California to Los Angeles, California—approximately 151 miles

Each of these links is designed as a stand-alone independently operating system. Authorization of the ROW affecting public land would be provided by one grant. However, individual notices to proceed may be issued allowing construction to occur on specific portions of the route while construction is pending in other areas for reasons such as identification of cultural resources or the presence of threatened or endangered species. The proposed project comprises approximately 1,323 miles of fiber optic cable and 48 acres of land for optical amplification (Op Amp) facilities. The project also includes approximately 2.9 miles of power line and approximately 0.25 miles of access.

For approximately three-quarters of its length, the project would occur within existing AT&T ROW (issued under grants PHX 083392 and PHX 083236 in Arizona and NMLC 064556, NMLC 064509, and NM 101882 in New Mexico) that traverse private, state, and federal land, and ranges in width from 16.5 feet to 40 feet. Exceptions that occur in Links Four and Five are described below.

Along Links Four and Five in California, AT&T would use public road and utility ROW to traverse private, state, and federal land. Public road ROW vary in width from 16 feet to more than 100 feet from edge of pavement. Disturbance from this project would be limited to 20 feet to 40 feet within that area. One or more telecommunication companies may already have used parts of the road ROW proposed for use in this project for cable or conduit installation, and their recent disturbance is in addition to the routine maintenance of roads and roadside shoulders conducted by federal, state, and county road managers.

The existing road and utility ROW corridors intended for use are sufficiently wide to accommodate the proposed project. Because the project is proposed to occur within existing, previously disturbed ROW, it would result in minimal impacts on the previously disturbed environment.

Approximately every 50 miles, the signal travelling along the fiber optic system would be "boosted" at Op Amp facilities. Of the 28 proposed Op Amp facilities, five would be located within existing facilities, six would be newly constructed on public land, and seventeen would be newly constructed on private land.

1.2 PURPOSE AND NEED

The purpose of the proposed buried fiber optic telecommunications system is to provide a full range of communication services including long distance and data transmission, as well as to support future demands for high-speed bandwidth and Internet-based services. AT&T needs to upgrade its existing fiber optic cable network with additional fiber that has the capacity to transport the necessary signals at increased speeds, or capable of OC192 and above transport. OC is short for Optical Carrier and refers to the pulses of laser light traveling through a glass fiber. The number (192) relates to the bit rate of the signal, determined by how fast the lasers turn on and off. When combined with Dense Wavelength Division Multiplexing (DWDM) technology and optical switches, capacity can reach and exceed 1 Terabit (1 trillion bits) per second, per fiber.

On a broader scale, these segments of AT&T's NexGen/Core Fiber Optic Telecommunications System project would tie into AT&T's new nationwide system, which comprises 13,500 miles to meet customers' demands for high-speed bandwidth and Internet-based services. The new system would consist of state-of-the-art fiber optic cable, ultra-high-speed bandwidth, DWDM, and optical switches that would allow AT&T to rapidly provide and restore service. Except for Camp Pendleton and selected urban areas[1], the proposed project would entail installation of a six-duct conduit system of which only one duct initially would be used. Installation of empty conduit would provide flexibility to accommodate foreseeable changes in the way fiber optic technology would be used.

[1] In a few urban areas, more conduits may be installed depending on joint build opportunities with local municipalities or other carriers. To provide space for future use at three locations in California, some additional conduit would be installed as follows. There would be eight 1.5-inch conduits for approximately three miles on each side of the San Diego POP site; on Camp Pendleton there would be 24 1.5 inch conduits and one 2-inch conduit; and on Camp Pendleton at the crossing of the Santa Margarita River, there would be an additional two 4-inch ducts.

For purposes of environmental assessment, one action alternative and the no-action alternative were analyzed to evaluate potential impacts on environmental resources.

2.1 NO ACTION

Under the no-action alternative, BLM would not authorize AT&T to construct the proposed project within the existing ROW across public land and the use and maintenance of the ROW would remain unchanged. AT&T's fiber optic communication system would not have the capacity to support future demands for high-speed bandwidth and Internet-based services. If the new upgrade were not provided, customers in service areas along the proposed project route would not benefit from the enhanced services, including a full range of long distance transmission and data transmission. Additionally, the areas would not be tied into the new nationwide system under development. The no-action alternative would not meet the purpose and need for the proposed project.

2.2 PROPOSED ACTION AND ALTERNATIVES

AT&T proposes to install an underground fiber optic telecommunications system between Lamesa, Texas and Los Angeles, California within existing, previously-disturbed AT&T and public road/utility ROW. The Proposed Action is in accordance with Public Law 94-579, the Federal Land Policy and Management Act, Title V, Sec. 501 and Sec. 503 and 43 CFR 2800. As required by 40 CFR 1610.5-3, the Proposed Action has been reviewed and conforms with BLM Resource Management Plans (RMPs) listed below.

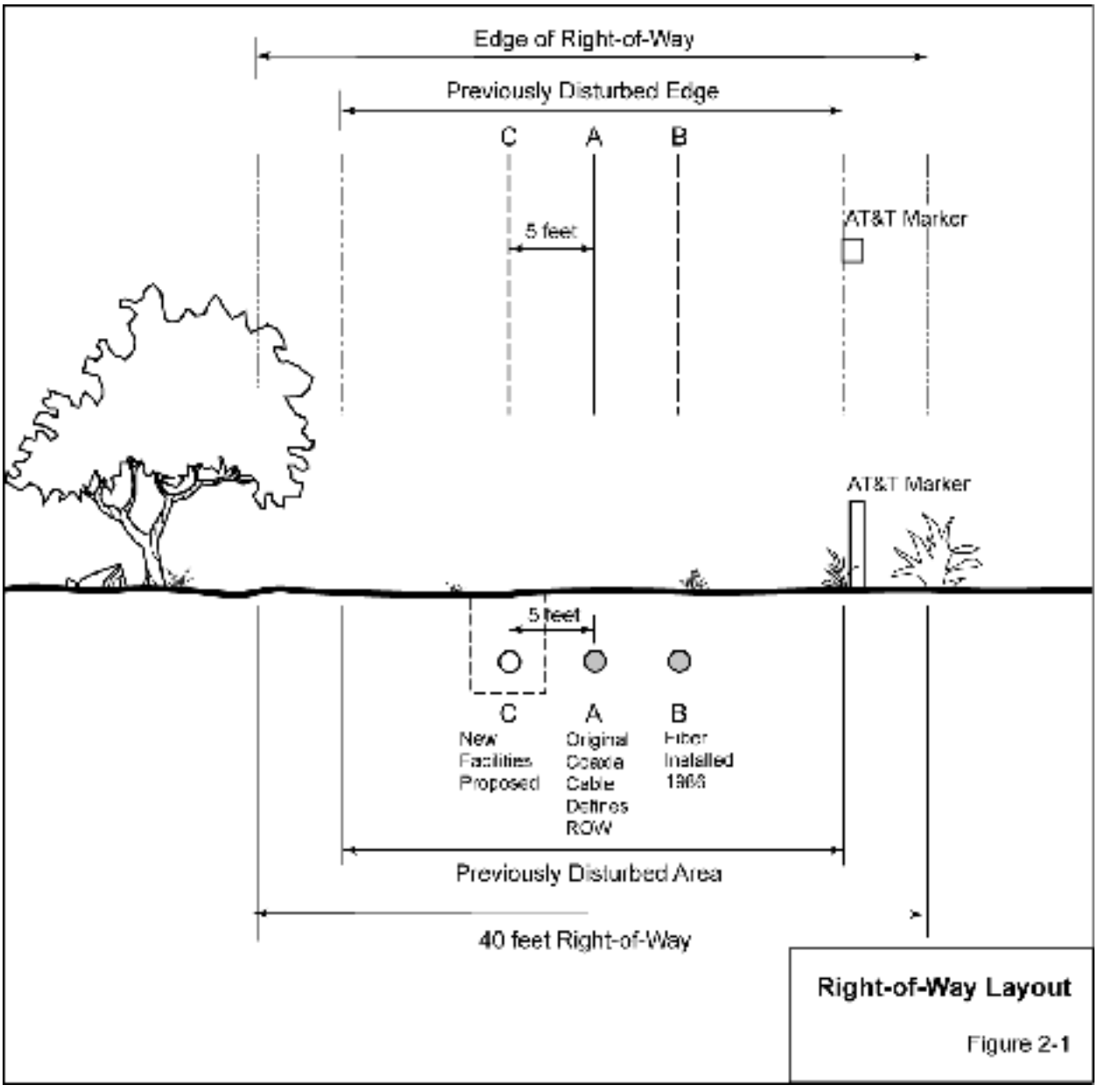
- Carlsbad District RMP, 1988
- Las Cruces District Mimbres Resource Area, Mimbres RMP, April 1993
- Final Phoenix RMP and Environmental Impact Statement, September 1989
- Final Lower Gila South RMP and Environmental Impact Statement, June 1988
- Proposed Yuma District (Havasu) RMP Amendment and Final Environmental Assessment, September 1994
- Final Safford District RMP and Environmental Impact Statement, August 1991
- Cleveland National Forest Management Plan, February 1986

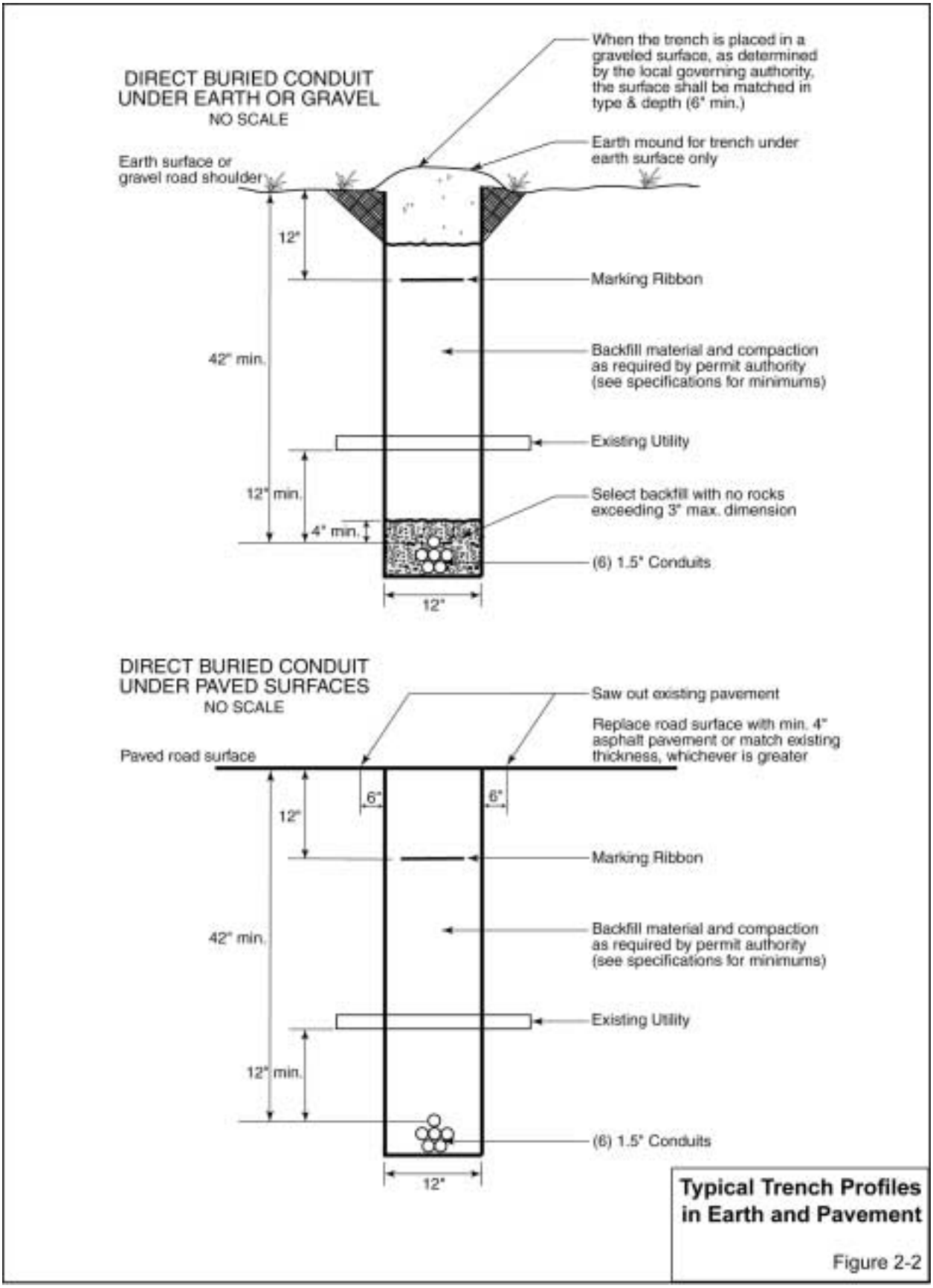
The NexGen/Core fiber optic telecommunications system project entails the design and construction of AT&T fiber in a multiple-duct conduit system and ancillary facilities for the upgrade of AT&T's long distance telecommunications system to accommodate digital broadband Internet protocol. Ancillary facilities would include: Op Amp facilities spaced an average of 50 miles apart; handholes placed every mile in rural and suburban areas (every 2,500 feet in California); manholes placed every 500 to 1,500 feet in urban areas; and new marker poles placed every mile in rural areas, every 2,500 feet in California, and 500 feet apart as required by local regulations in urban areas.

For Links One, Two, and Three, the project is designed for placement within existing AT&T ROW, which is generally 40 feet wide on public land. During construction, temporary surface disturbance would be expected for a corridor approximately 20 feet wide for the length of the route. Subsurface disturbance would vary in width and depth depending on installation methods as described in Section 2.4.2.2.

Where the project is within existing federal, state, and county roads, a construction easement 25 to 40 feet wide would be needed during installation, with a permanent easement of 20 feet requested for maintenance and operation of the system. In general, construction would take place at the road shoulder, but road managers may require the conduits to be installed at the far edge of the ROW in cases where eventual road widening or expansion is contemplated.

Figure 2-1 illustrates a typical ROW layout for the AT&T ROW and Figure 2-2 shows profile views of typical conduit installation in shoulder and in pavement. The existing AT&T ROW contains two existing facilities – coaxial cable installed in the mid-1940s (referred to as the "A cable") and fiber cable installed in 1986 ("B cable"). These cables would not be modified as part of this project; they would remain in place and operational until they are decommissioned. On AT&T ROW, the previously-disturbed area extends from the existing marker poles, which are located on the edge of the ROW, to an area approximately 25 feet outside of the B cable. The proposed action would place the new fiber optic system along the A cable, approximately five feet away.





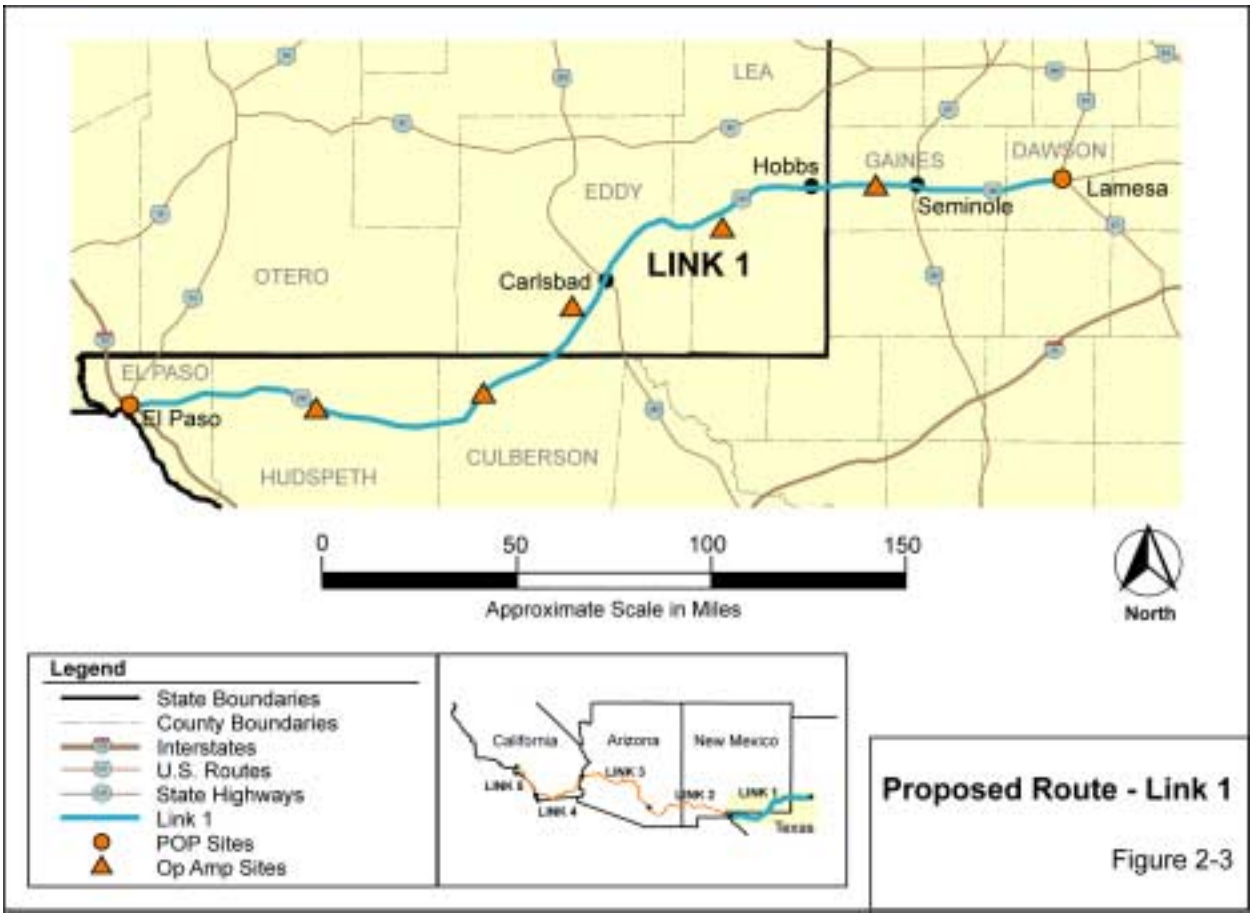
Typical Trench Profiles in Earth and Pavement

Figure 2-2

Locations of the proposed route and Op Amp facilities are displayed on BLM 1:100,000 surface management maps, which are provided in Appendix A. The five sub-sections that follow provide detailed route descriptions by link:

2.2.1 Link One – Lamesa, Texas to El Paso, Texas

Figure 2-3 displays the general location of the proposed route for Link One where the proposed project would be placed alongside existing buried cable facilities in an existing AT&T ROW. The proposed route commences at the AT&T POP in Lamesa, Texas at the intersection of State Highway 137 and South Houston, proceeding northwest on AT&T's existing ROW up to and closely paralleling Texas State Highway 180. The route parallels Highway 180 to Seminole, Texas where it deviates around town before picking up Highway 180 again on the west edge of town. The route then continues west in AT&T's ROW to Hobbs, New Mexico where it travels to the north edge of the city, crossing through city streets and existing ROW to bypass the major portion of the city before continuing west along Highway 180. The route again parallels Highway 180 ROW to the east edge of Carlsbad, New Mexico where it cuts diagonally to the southwest on existing ROW, picking up and paralleling Highway 180/62, again, south of Carlsbad. The route then continues south to the New Mexico border into Texas, continuing along Highway 180 to the outermost portion of El Paso, Texas where it accesses Texas Department of Transportation (TXDOT) ROW and city streets to reach the AT&T POP in El Paso at 500 Texas Street.



2.2.2 Link Two – El Paso, Texas to Tucson, Arizona

Figure 2-4 displays the general location of the proposed route for Link Two where the proposed project would be placed alongside existing buried cable facilities in an existing AT&T ROW. The proposed route commences at the AT&T POP at 500 Texas Street, El Paso, Texas and proceeds southwest along city streets to U.S. Highway 85, then west northwest along U.S. Highway 85 to a point where U.S. Highway 85 intersects with the railroad overpass at the crossing of the Rio Grande River. The route then proceeds along city streets through Sunland Park, then northwest along an existing AT&T ROW that parallels the Union Pacific railroad to a point southeast of Deming, New Mexico. At that point the route generally parallels county and state roads to a point west of Deming where it intersects with Interstate 10 (I-10). The route then parallels I-10 west to Park Avenue east of Tucson, Arizona where it departs I-10 and angles north along city streets to the AT&T POP in Tucson at 126 East Alameda Street.

2.2.3 Link Three – Tucson, Arizona to Blythe, California

Figure 2-5 displays the general location of the proposed route for Link Three, which begins at the AT&T POP at the 100 block of East Alameda Street, Tucson, Arizona and proceeds northwest along city streets to the I-10 frontage road. The route then proceeds northwest along I-10 to Arizona State Route (SR) 87, and then proceeds north on SR 87 to Bartlett Road where it begins following suburban and city streets to the AT&T POP located in Mesa, Arizona in the 100 block of West Pepper Street. The route leaves the Mesa POP and proceeds eastward along city streets to the Phoenix POP located in the 200 block of Monroe Street, then departs the Phoenix POP via Adams Street and proceeds along 12th Avenue, Van Buren Street, and Durango Street to the Roosevelt Canal. The route then follows the Roosevelt Canal northwesterly to Yuma Road, then proceeds west on Yuma Road to the intersection of the AT&T ROW. The route follows the AT&T ROW northwest, then west, and then southwest to intersect again with Yuma Road. The route follows west along Yuma Road to the intersection of I-10 at Miller Road (approximately Exit 114). The AT&T ROW then follows I-10 northwest to the intersection of Buckeye-Salome Road (Exit 81). The route proceeds northwest along Buckeye-Salome Road to Salome, Arizona, then southwest along Arizona State Highway 60 to I-10. The route then follows I-10 west into Blythe, California. In Blythe, the route follows city streets to the AT&T POP located in the 400 block of South 7th Avenue.

2.2.4 Link Four – Blythe, California to San Diego, California

Figure 2-6 displays the proposed route for Link Four, which would add to the existing AT&T system infrastructure between two regional POPs, one at 217 7th Street in Blythe, California and the other at 650 Robinson Street in San Diego. Link Four can be characterized as a rural build and would follow public road ROW for the entire link. The proposed route travels southwesterly along Highway 78 and Old Highway 80 through the following city jurisdictions: Blythe, Brawley, El Centro, El Cajon, Lamesa, and San Diego. In addition, the route would pass through large portions of unincorporated areas in all three counties and would also cross Cleveland National Forest, public land, and the La Posta and the Campo Indian Reservations.

The intent of the 1980 California Desert Conservation Area Plan (CDP) to limit utility installation to previously disturbed ROW is met with the proposed action because all installation is proposed for road ROW that is routinely maintained by grading and shaping. Therefore, this proposed route meets the intent, if not the letter, of CDP utility land use management and control (see Sections 2.2.6 and 3.6 for more regarding the CDP).

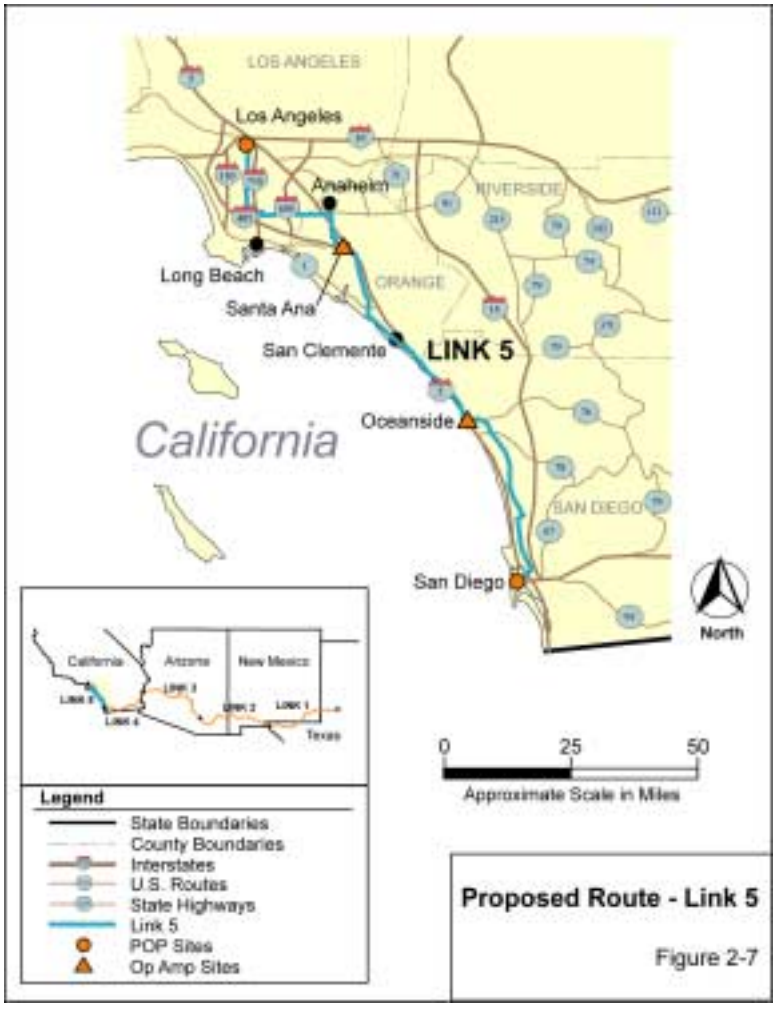
2.2.5 Link Five – San Diego, California to Los Angeles, California

Figure 2-7 displays the general location of the proposed route for Link Five, which passes through Los Angeles, Orange, and San Diego counties. The proposed project would add to the existing AT&T system infrastructure between the following seven regional POPs:

- 650 Robinson Street, San Diego, CA
- 2225 Mission Avenue, Oceanside, CA
- 28302 Marguerite Parkway, Mission Viejo, CA
- 1241 West Alton Street, Santa Ana, CA
- 217 Lemon Street, Anaheim, CA
- 5077 East Lew Davis, Long Beach, CA
- 420 South Grand Avenue, Los Angeles, CA

From the AT&T POP in San Diego the route moves north as a mixture of urban and suburban build through the cities of Encinitas, Carlsbad, and Oceanside to the southern boundary of Camp Pendleton. Within Camp Pendleton the route is on or immediately adjacent to Stuart Mesa Road and El Camino Real. At the north end of Camp Pendleton the route follows El Camino Real (old Highway 101) through the San Onofre State Park, crossing into Orange County and the City of San Clemente on Avenda Del Presidente. It travels north in an urban build through San Clemente and Dana Point to the AT&T POP in Mission Viejo. From there it proceeds north as an urban build through Mission Viejo, Laguna Hills, Irvine, Santa Ana, Garden Grove, and Anaheim in Orange County. It then crosses into Los Angeles County through the cities of Cypress, Hawaiian Gardens, Lakewood, Long Beach, Compton, Lynwood, South Gate, Huntington Park, and Vernon before terminating at the AT&T POP in the City of Los Angeles.

Link 5 is almost entirely an urban build, and follows city streets as well as public road and utility ROW for its entirety. About 88 miles of the build outside of Camp Pendleton are urban and within city streets, and 41 miles of the 43 miles of suburban build also are within pavement. Approximately 1.5 miles near the San Diego city limits are within an unpaved road in an existing utility corridor.

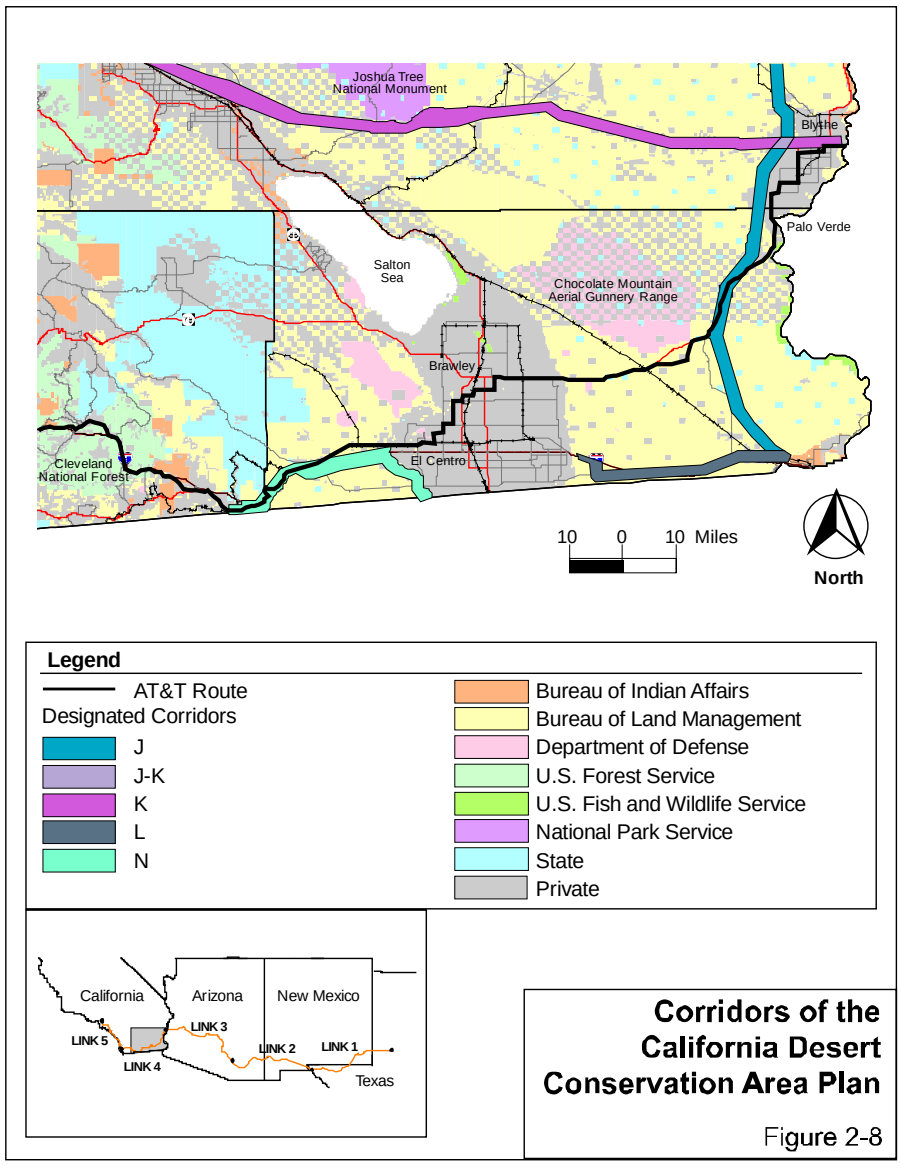


2.2.6 Utility Corridor Alternatives

In 1980 when the CDP was issued, utility corridors 2 to 5 miles wide were designated, mostly along existing pipelines and transmission lines (BLM 1980). Subsequently, several additional corridors were designated. It was the CDP's intent to limit future disturbance and land use designation for utilities to previously disturbed areas already carrying utilities. Figure 2-8 shows the CDP corridors.

By the legislation enabling the CDP, a plan amendment is required to allow an exception to the Plan's designated utility corridors. AT&T's proposed route follows existing corridors in two places: south of Blythe along Highway 78, and along Interstate 8 west of Ocotillo. However, it diverges from Plan corridors across public land along Highway 78 and Highway 80. Other alternatives examined through the CDP followed the K, J, L, and N corridors in various locations; however, none of these alternatives was selected.

In addition to the alternatives considered in California, in Arizona along Link Three an alternative parallel to I-10 between the Buckeye-Salome Road (Exit 81) and AZ State Highway 60 east was considered. The alternative was eliminated from further consideration because of the requirement for a considerable amount of new ROW acquisition and greater levels of new ground disturbance



2.3 PROJECT FACILITIES

2.3.1 Fiber Optic Cable and Conduits

On federal and state land, the proposed fiber optic telecommunications system would consist of six 1.5-inch conduits; one conduit would accommodate the current AT&T cable requirement and five would provide space for future use by AT&T and other carriers. Section 1.2 provides information about deviations from the six duct conduit system, which occur on Camp Pendleton and in selected urban areas.

Each conduit can accommodate a cable that is one inch in diameter and composed of 312 hair-thin glass fibers. The conduits would be bundled together and placed in a trench that is generally about four feet deep and up to one foot wide.

2.3.2 Optical Amplifier Facilities

To maintain integrity of signals being transmitted over the new system, signals would need to be optically amplified approximately every 50 miles. Figure 2-9 is a typical layout of an Op Amp facility (the figure contains both plan and elevation views). A summary of Op Amp facility information and site maps for each of the 28 Op Amp facilities are provided in Appendix B. Each unstaffed, locked facility would require commercial electric power and minimal periodic maintenance.

Op amp facilities would permanently occupy up to 2 acres. Initial ground disturbance would be confined to the fenced area of approximately 100 by 150 feet. It is anticipated that eventually the 2-acre sites would house other similar facilities. Each site would be engineered, graded, and graveled to ensure surface drainage would not flood the access ways and buildings.

The Op Amp sites would contain two separately fenced areas for housing electronic equipment. Fences would be six feet tall chain-link on public land. Other Op Amp facilities may be fenced differently (e.g., block walls) depending on location-specific agreements with landowners. One of the areas would contain a single pad 30 by 50 feet. A single building approximately 48 feet long, 29 feet wide, and 12 feet tall would be installed on that pad of a prefabricated steel-reinforced concrete tilt-up wall design, whereby the building's walls and roof are made of large concrete panels that are poured off site, brought in on semi-trailers, and then erected on site. The other area would contain two pads, each 30 by 50 feet. One of the pads would be used for future expansion while the other would contain four precast concrete buildings, each 11 feet 8 inches wide, 10 feet 8 inches tall, and 30 feet long. Each of these buildings in both areas would house electronic amplification equipment, 48-volt wet cell batteries, and DC/AC inverter equipment for emergency power, lights, and a heating and air conditioning system.

Each area requires a diesel-powered generator designed to provide back-up power in case of electrical distribution outage. The back-up generator and a 336-gallon fuel storage tank would be located outside each of the building areas. The generator and fuel tank are a single unit with the double-walled fuel tank mounted below the generator in a concrete catch basin and accessible through a utility panel on the side of the generator. The generator is contained within a separate enclosure approximately 8 feet by 10 feet by 4 feet tall, with utility access panels along one side.

The concrete catch basin would be inspected regularly to detect leaks. A spill prevention control and countermeasure plan would not be required for this facility pursuant to CFR 40 § 112.1 because the tanks are smaller than 660 gallons individually and 1,320 gallons collectively.

Except for a door and air-conditioning outlets, there are no other openings in the Op Amp facility buildings. Op Amp facilities would be designed/painted to blend with the natural environment as required by BLM and would be placed outside of sensitive viewsheds as directed by BLM. Op Amp facilities would conform to local ordinances for appearance and landscaping. Final grading would be reshaped to blend functionally and esthetically with the surrounding topography.

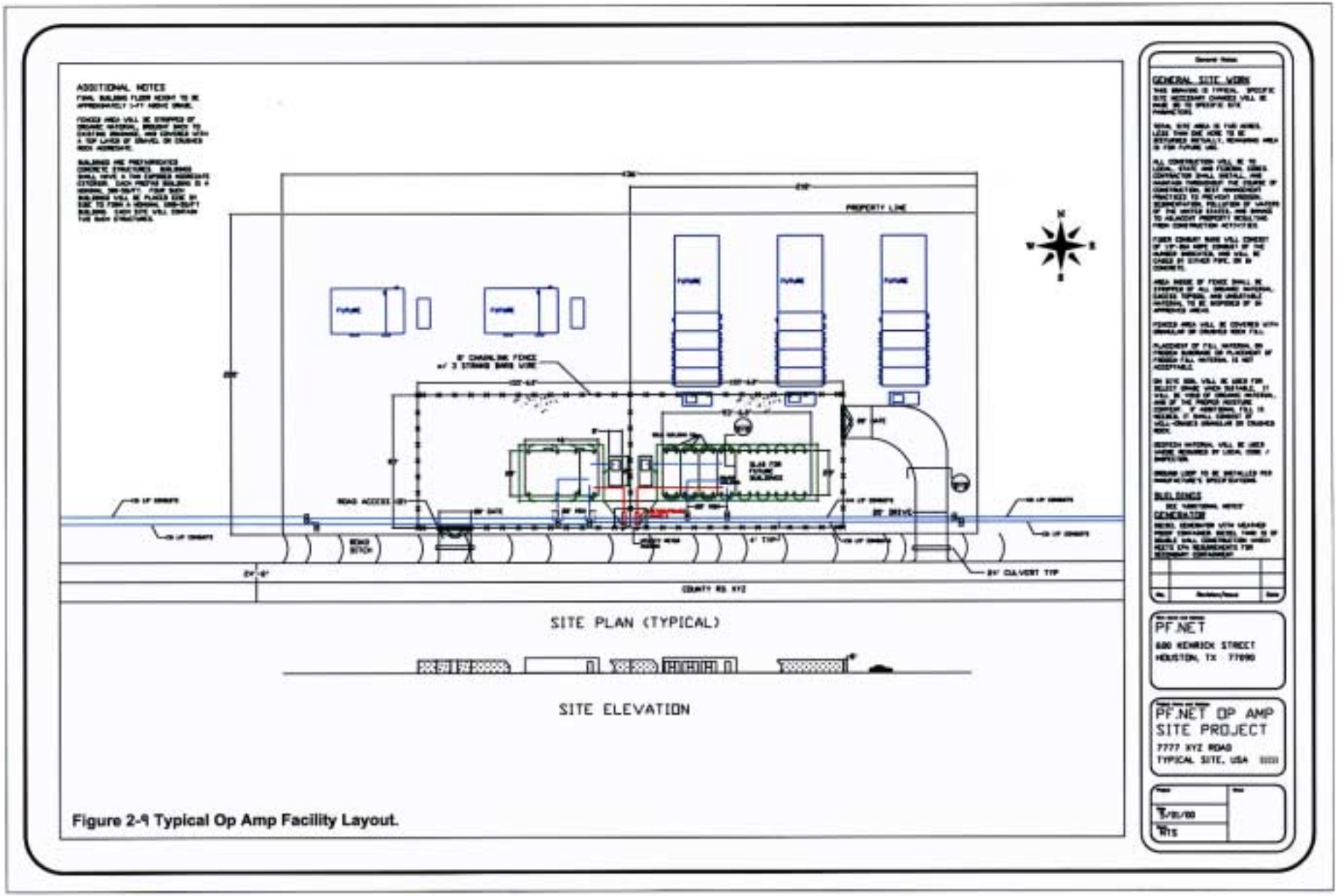


Figure 2-9 Typical Op Amp Facility Layout.

2.3.3 Buried Access Vaults

Buried vaults (i.e., handholes and manholes described below) would be placed intermittently along the entire length of the route to provide assist points and splice locations for cable installation. Once the project is installed, the buried vaults would be accessed only upon installation of additional fibers in one of the empty ducts, or rarely, for maintenance. Each vault would house 80 to 100 feet of cable slack. Because the specific location of buried access vaults is flexible in rural areas, they would be located in non-sensitive areas.

2.3.3.1 Handholes

In rural areas and most suburban areas, two handholes would be placed approximately every mile (every 2,500 feet in California). The fiberglass reinforced polymer plastic/polymer concrete handholes are 30 inches by 60 inches and 30 inches deep, would be buried so that their tops would lie approximately 18 inches below ground surface, and are equipped with a locating device for purpose of re-entry. Installation of the handholes would require an excavation 16 feet long, 8 feet wide, and 6 feet deep. Once installed, the handholes would not be visible from the ground surface. Handholes would be placed 1 to 2 feet deeper in agricultural areas so as not to conflict with deep plowing operations.

2.3.3.2 Manholes

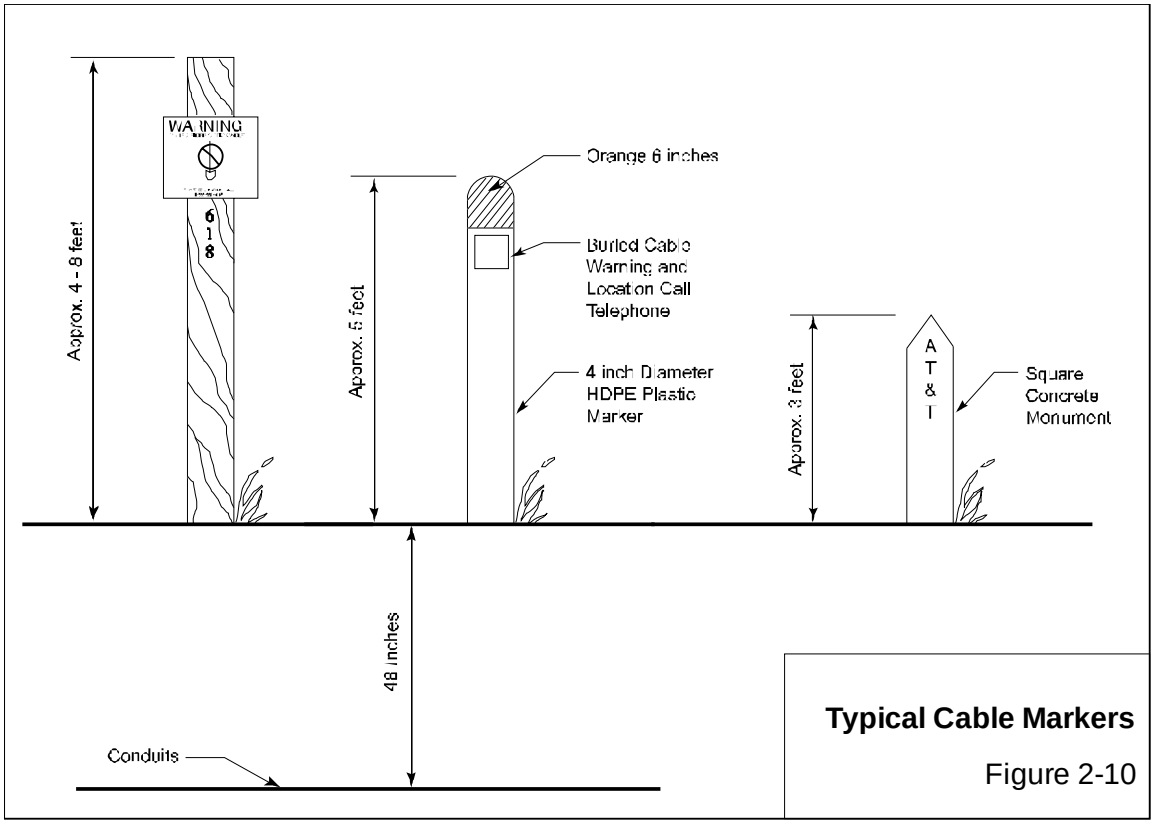
In urban areas and where required by the city in suburban areas, manholes would be placed approximately every 500 to 1,500 feet (depending upon specific City requirements). Manholes are 4 feet by 4 feet and 4 feet deep and would require an excavation 8 feet by 8 feet and 6 feet deep. They are equipped with a cast iron lid that is visible from the ground surface.

2.3.4 Right-of-Way Markers

Within existing AT&T ROW, existing marker signs include either pressure-treated timber approximately 4 to 8 feet tall and 6 inches in diameter, plastic markers that are five feet tall, or three feet tall square concrete monuments. Existing markers would remain in place to mark the ROW in these areas; however, they may be upgraded and/or replaced as deemed appropriate. In addition, new marker signs would be installed approximately every mile at new handhole locations (every 2,500 feet in California). New marker signs installed on existing AT&T ROW would match existing AT&T marker signs in the area.

In urban areas where local regulations require it, new marker poles would be installed over the conduits at 500-foot intervals. In general, these poles are 5 feet high and made of white plastic with orange caps and appropriate identifying information inscribed. Figure 2-10 illustrates a typical ROW marker.

A bright orange plastic tape would be buried over the conduit bundle in the trench at the time of trench backfill with at least 12 inches of cover to warn anyone digging in the area of conduit location.



Typical Cable Markers

Figure 2-10

2.4 PROJECT ACTIVITIES

Design of the system has utilized existing AT&T drawings that contain serial overviews including stationing to locate physical features such as roads and numbered marker posts. These as-built drawings describe the existing ROW. Additionally, these drawings provide a means to identify and mark environmentally sensitive locations and engineering issues associated with construction along the route.

The phasing of project activities for the life of the project is described below and would include preconstruction, construction, reclamation, operation and maintenance, and abandonment.

2.4.1 Preconstruction

Figures 2-1 and 2-2 are a plan view and a cross section that illustrate how the ROW would be configured within existing AT&T ROW, and within road ROW, respectively. One edge of the ROW is defined with marker poles, and route staking would ensure that construction activities for the proposed action would be restricted to the previously disturbed area. Areas requiring resource protection would be identified and staked as well. Within existing AT&T ROW on public land, route staking would entail the following:

"A cable" - The "A cable" would be staked first as a point of reference.

Centerline staking - Centerline staking would indicate the general area of placement for the proposed action. This may be done in conjunction with the staking of the "A cable", since the running line is proposed as an offset.

Pre-disturbed boundary - A stake would be placed to identify the outer boundary of the previously disturbed area. This would be used to assist construction crews in identifying areas in which their activities, travel, and placement of spoils would be restricted.

Environmental issues - Staking would designate the limits of areas of concern. The various environmental resource professionals would identify these locations during the environmental review process. Information detailing the nature of the issue and proposed resource protection measures would be identified, described, and mapped in construction documents/drawings from which the project would be constructed.

Ingress and egress - A stake would designate locations for ingress and egress from a public thoroughfare to the construction corridor.

For construction within road ROW, the edge of the road ROW is generally signed by the road manager. Where it is not signed the edge of the road ROW would be staked in advance of centerline staking. The centerline and the construction limits would then be staked in advance of construction. Areas of environmental concern would be flagged and shown on construction drawings prior to construction.

2.4.2 Construction

2.4.2.1 Sequence of Major Activities

This section describes the typical construction sequence for the project, which includes the following steps:

1. Install barriers (e.g., tape, stakes) to establish "no construction" zones around sensitive resources. Plant salvage and/or disposal techniques (transplanting, avoidance, sale, etc.) would be determined and jointly agreed to by BLM and AT&T prior to beginning construction.
2. "Roll down" the existing ROW, flattening any vegetation that exists with a dozer that is approximately 9 feet wide with a total track imprint about 4 feet wide (two 18 inch tracks). Site preparation also involves pushing out erosion ruts to allow vehicles to use existing access.
3. Install bundled 1.5 inch conduits within the ROW with track-mounted plow or trenching (see descriptions below).
4. Install conduit bundle at drainage, road, and railroad crossings using the open cut, plow, directional boring, trenching over or under existing culverts, or bridge attachment methods as appropriate.
5. Install handholes for access and maintenance of conduit bundle.
6. Pull/blow fiber optic cable through the conduit(s).
7. Place/repair/replace marker signs, as necessary.
8. Splice and test fiber, and backfill buried access vaults.
9. Clean up/restore the site.

The construction work corridor would vary between 20 feet and 40 feet depending on field conditions, limited construction areas, land use, terrain, etc. The conduit bundle would be plowed, open-cut trenched, or directionally bored through drainage crossings. All flowing drainages and areas of riparian vegetation would be avoided by one of three construction methods: directional bore, bridge attachment, or placement above or below an existing culvert. For California, specific construction methods for each crossing are found in Appendices K-2 and L-2.

The project would cross numerous roads, requiring installation by open-cut trenching or directional bore as required by the appropriate authority. The open-cut road crossing methods would not require extra workspace. Any pavement removed would be repaired or replaced.

The conduit facilities would be placed to the following approximate depths:

- General terrain – 42 inches deep
- Agricultural land – below plow depth
- Minor Wash – 48 inches deep (a minor wash shows no evidence of scouring (steep banks) and generally has sloping paths in and out of the wash)
- Major wash – 60 inches deep (a major wash shows evidence of scouring, such as channelization, erosion, or vertical banks)

Once a major section of the conduit is buried, the fiber optic cable would be installed.

Total construction duration for the entire project would be approximately eight months, depending on weather conditions and environmental restrictions encountered. Construction on public land would commence shortly after receiving all applicable permits and authorizations. Op Amp facility construction would occur concurrently with other construction. A single construction spread may install 12 miles of fiber optic cable in a day under ideal conditions

2.4.2.2 Ground Disturbance Activities

The major ground disturbance activities are summarized below. Since conduit-installation techniques can vary due to field conditions, the various construction methods are explained as well.

Clearing and Grading

The use of previously disturbed ROW would make it possible to install the new line without creating surface disturbance in previously undisturbed areas. Clearing and grading are not anticipated for installation of the conduit bundle with the exception of removing erosion ruts on existing access roads so vehicles can travel along the roads. Clearing and grading would be required for new Op Amp facilities, and the fenced areas would be graveled. (See Appendix B for locations of new Op Amp facilities.)

The project would cross many wash areas. At major washes that have a vertical bank, the bank would be excavated and spoils placed along the outer edge of the disturbed area. Upon completion of installation of the cable, the excavation would be restored and stabilized as specified by the field inspector or engineer. Slopes where soil erosion may be a problem would be stabilized using waterbars.

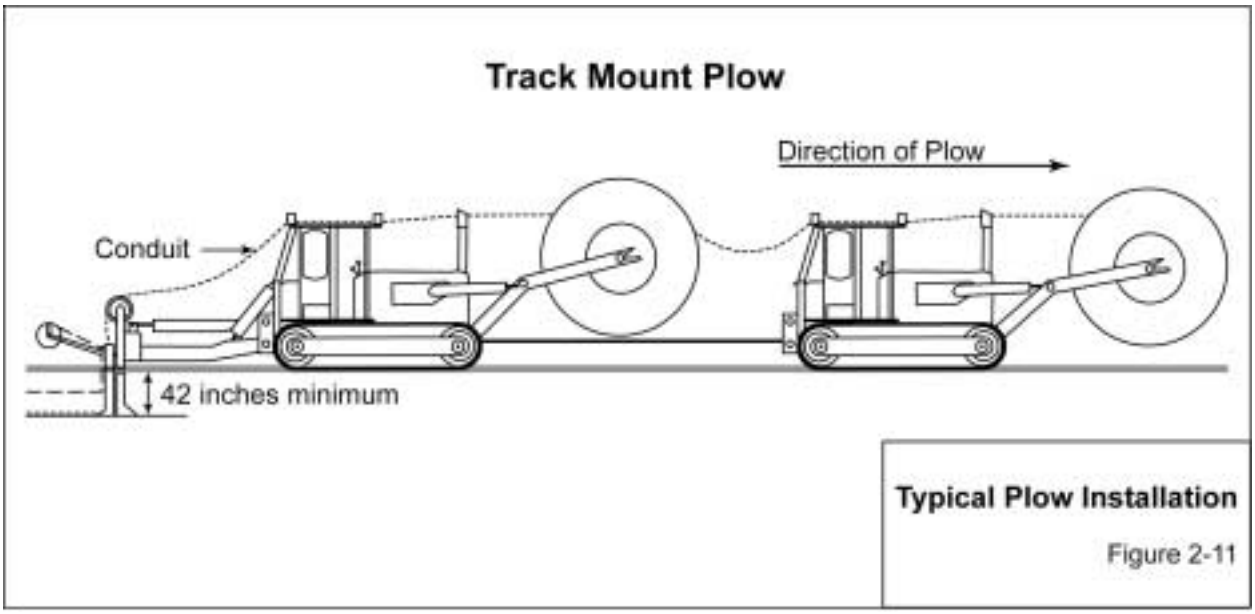
Placement of the Conduit Bundle

Plowing

For most terrain, the conduit bundle would be installed by plow, a method that requires no trench and does not create a spoil pile. The width of direct soil disturbance caused by the direct-burial plow would be approximately 1 foot, in addition to lesser disturbance from the equipment tracks (10-foot width).

Plowing would utilize tracked equipment with a plow capable of maintaining the minimum depth of conduit while causing minimum displacement of the soil. Figure 2-11 illustrates a typical plow installation. The plow normally would be towed by another tracked vehicle to ensure ease of placement and minimize disturbance to the ground, and an activity called “ripping” would utilize a ripper shank to pre-plow the trench and facilitate the plow prime mover, which is of equal size.

At the time of plow installation, the excavation for the running line would be six inches deeper than burial depth. After the conduit bundle is placed, the rip would be restored utilizing a roller or walking the tracked vehicle down the rip, compacting the disturbed soil. A slight surface indentation would remain along the tip to allow moisture collection and aid future vegetation establishment. The ripping operation also would identify areas requiring rock excavation.



Typical Plow Installation

Figure 2-11

Trenching

Trenching opens an area about 18 inches wide and about 48 inches deep along the running line. Trenching is generally conducted using a backhoe, or a rubber-tired or tracked excavator. While the trench is 18 inches wide, the total ground disturbance from the installation is about 10 feet wide, including the tracks of the excavating equipment. Trenching is anticipated where the conduit bundle cannot be placed to depth by the plowing method, in areas such as:

Major Washes—The conduit bundle would be placed by trenching to achieve the required depth. Spoils would be placed alongside the trench within the disturbed area. Excavation would be done with tracked excavators and activities and spoils would be limited to the existing ROW and authorized work space.

Tie-ins—Excavation would be required at locations where the conduit bundle is joined due to placement by different methods, i.e., plowing and directional boring. Excavation would be accomplished with rubber-tired backhoes and limited to the existing ROW and authorized workspace.

Rock Excavation—In areas identified during the ripping operation, the trench would be excavated utilizing appropriate equipment (blasting would not be used). Spoils would be returned to the ditch and placed generally over and along the running line within the disturbed area. If necessary, excess rock would be used as additional protection at the banks of major washes. Rock excavation would incorporate track-mounted excavators and hammers, in addition to tracked mounted rocksaws. All spoils and activities would be limited to the existing ROW and authorized workspace.

Pavement Cutting— In places where there is existing pavement or sidewalk, the paved area would be cut with asphalt or cement saw about 2 feet wide along the planned alignment. This is known as a “T-cut” procedure, that is, an area of pavement larger than the trenched area required to lay the fiber conduit is removed. To facilitate pavement replacement, a track-mounted trencher or backhoe would then be used to cut the trench to the four-foot depth for conduit placement. In locations where utilities are present, digging would be done manually. After conduit placement and base compaction are completed, pavement would be restored to pre-construction conditions, per local or state regulations.

Manholes and handholes—Excavation would be required to place these facilities underground. Excavation typically would be accomplished with rubber-tired and tracked excavators and would be limited to the excavation dimensions described in sections 2.3.3.1 and 2.3.3.2. Often the buried access vaults are covered after the conduit bundle burial operation and re-opened during fiber installation (described below) before they are permanently covered.

Spoils would be placed within the disturbed area and smoothed out to blend with surrounding landscape contours.

Directional Boring

At stream crossings, certain sensitive resource locations and other locations determined by engineering requirements, the conduit would be installed using directional or guided boring. Directional bores are bores that can be steered. This procedure allows the bore machine to sit at ground level some distance from the stream, to bore down under the stream, and to be steered back up to the surface. Steering avoids the need for direct surface disturbance and in-stream water work, and minimizes impacts on associated riparian vegetation.

The directional bore drills a hole slightly larger than the conduit bundle to be installed. In general, the limit on the angle of the bore is approximately 15 degrees, and the bore machine is usually set outside of the stream bank. Once the bore reaches the opposite side of the stream, the conduit bundle can be attached to the drill and pulled back through the bore. At bore sites, a bore pit is constructed for the boring machine. The pit is usually about 6 feet wide, 12 feet long, and 3 to 6 feet deep. Overall, the disturbance area at each bore site is approximately 20 by 60 feet. Bore sites are located outside of riparian vegetation areas.

Bridge Hanging

The attachment of fiber optic cable to bridges is accomplished by placing a steel pipe on the exterior portion of the bridge, generally at or below the level of the roadbed. The diameter of the steel pipe is determined by the number of conduits that would be attached to the bridge (the greater the number of conduits, the larger the diameter of the pipe). The pipe is secured to the bridge by drilling holes into the concrete exterior of the bridge structure on either side of the pipe and setting threaded bolts with epoxy grout. The pipe is then fastened to the bridge with metal pipe straps, which consist of two ear straps, chisel point studs, nuts, washers, and epoxy capsules for anchoring. Epoxy grout is used at both ends of the bridge head wall to seal the sleeve and pipe between the ground and the bridge attachment. A splice box or manhole would be installed on either end of the bridge for cable slack and for assist points for cable routing. The splice boxes or manholes each would contain a minimum of 100 feet of slack cable.

Fiber Installation

Once the conduit bundle is placed in the ground and permanent buried access vaults have been placed, the fiber optic cable would be “pulled” or “blown” through one of the conduits. These methods use compressed air to either “blow” the fiber through the conduit or by blowing a nylon rope through the conduit to “pull” the cable. In addition to the permanent buried access vaults described in Section 2.3.3, which are placed during the “first pass” along the ROW (during conduit bundle burial) temporary assist points are required to facilitate the fiber installation process. These temporary mid-point assist points require an excavation 4 feet wide, 4 feet deep, and 15 feet long, and are dug at least once between permanent buried access facilities (sometimes more than once depending on terrain and other field-variable conditions). Temporary assist points would be backfilled after an entire reel has been placed. Initial construction would include the installation of a single cable. Subsequent cables would also require the same steps.

Necessary equipment includes a cable reel containing 3 to 8 miles of cable, air compression equipment to assist the pulling or blowing, and a backhoe to dig necessary temporary assist points. Equipment is pulled on small trailers or mounted on trucks (typically one-ton size).

Site Development for Op Amp Facilities

AT&T’s project corridor generally parallels several other fiber optic lines that already contain Op Amp facilities for both coaxial and fiber cable. To the extent possible, AT&T’s proposed project would share existing sites or place Op Amp facilities in previously disturbed sites or within developed private areas, and the facilities would be located such that new disturbance for buildings, access roads, or utility corridor would be minimized.

Major construction activities for Op Amp facility sites not within an existing structure are as follows:

1. Surveying and staking
2. Grading and site preparation
3. Concrete slab/security fence
4. Assembly of pre-manufactured structure
5. Installation of electronic equipment
6. Clean-up, restoration, and re-seeding

Each of the proposed Op Amp facilities would require 800 amps of electrical power, which would be supplied in the following ways. Where it is necessary to build an electrical distribution line, the equipment used to construct the line would include three separate vehicles — one with an auger, another referred to as a "bucket truck" with the equipment that places the poles, and a pole truck. The auger would drill the holes for the poles to a depth of six feet. The bucket truck would place the poles in the holes. Augured soil would be backfilled and tamped around the pole. Pole height would be approximately 34 feet above ground. Pole spacing would be approximately 300 feet. The area of disturbance would be confined to a few feet immediately around each pole. Once the poles are in place, the conductor would be pulled into place with a rubber tire reel truck and tension truck. A pole-mounted transformer would be necessary whenever an existing or proposed distribution line powers an Op Amp location.

At all other Op Amp locations, electrical power would be provided via the local existing and adjacent electrical distribution system.

Laydown Areas

Material storage yards would be located at the proposed Op Amp sites along the route. Conduit reels and construction supplies would be staged along the corridor in advance of the placement operation. This would limit any congestion on the route and eliminate the need for numerous access points.

Equipment and material staging sites would be located throughout the proposed route outside of streams or other waterways within the existing ROW or on area free of sensitive resources and previously disturbed areas. These sites would temporarily hold equipment and materials while construction activities are conducted in the region.

Soil Replacement and Stabilization

Erosion control structures such as waterbars, diversion channels, terraces, or sediment fences would be constructed, where determined necessary by BLM or the project engineer to divert water and reduce soil erosion along the ROW or in other areas disturbed by construction where slopes exceed 30 percent. The cable would be installed along the contour as practicable, avoiding steep slopes. Waterbars would be constructed on all disturbed areas to the spacing and cross sections specified by the Stormwater Pollution Prevention Plan (SWPPP) developed for the project as part of the U.S. Environmental Protection Agency (EPA) National Pollution Discharge Elimination System permit (Appendix C). Waterbars would be constructed to accomplish the following:

1. simulate the imaginary contour lines of the slope (ideally with a grade of 1 or 2 percent)
2. drain away from the disturbed area
3. begin and end in vegetation or rock whenever possible

Where construction areas are subject to strong erosion forces prior to vegetation re-establishment, special mulching practices or matting would be used to promote physical stabilization. Rock mulches would be used in steep-sloping rock outcrop areas to reduce erosion and promote growth of vegetation. Cultivation and land preparation operations on steep-sloping areas would be conducted on the contour to minimize erosion. Erosion-prone areas also would be re-seeded, as required by BLM, with a BLM-approved native seed mix. Reclamation plan guidelines to be followed are included as Appendix D.

Disturbed areas would be revegetated as appropriate using a seed mix and method of application approved by BLM. Seed would meet or exceed the live seed requirement, contain a BLM-approved mix of species, and be free of noxious weeds.

2.4.2.3 Work Force

Each construction spread would require eight to fifteen workers including foremen, equipment operators, general laborers, compliance monitors, and construction inspectors. Each spread would require several vehicles and pieces of equipment depending upon the activities performed. There would be several spreads under construction at any one time over the entire route accounting for increased numbers of workers, their equipment, and support vehicles. Some of the duties of the construction crews may be subcontracted or combined, which could reduce the overall size of the construction force.

Construction workers would not be permitted to camp upon public land while participating in construction activities unless specifically requested to do so by the contractor and approved by the BLM. Construction workers also would not be permitted to travel cross-country on public land.

2.4.2.4 Construction Cleanup/Sanitation

The contractor would be required to have a continuous cleanup program throughout construction, and restore land crossed to its pre-construction condition. Restoration also would include the removal of ruts deeper than 4 inches and the disposal of foreign objects. Restoration would include re-contouring and reseeding impacted areas with native vegetation similar to the original, cleaning trash out of gullies, and restoring terraces.

The contractor would be required to keep a clear work area. After completion of the project a final walk-through would be done on public land to ensure that no waste or material is left on site and that all ruts or terrain damage or vegetation disturbance has been repaired to the satisfaction of the BLM Authorized Officer.

No non-biodegradable debris would be deposited in the ROW or temporary use areas. The contractor would be required to transport portable chemical toilets along with each construction crew during construction. Toilets would be transported on a flatbed trailer, pulled by a pick-up truck.

2.4.2.5 Fueling

During construction, equipment would be re-fueled on the ROW by a fuel truck. Refueling would take place no closer than 100 feet from a wetland or riparian zone. The fuel truck would contain an emergency spill kit to capture any spillage.

2.4.2.6 Weed Control

In accordance with Executive Order 13112, the project area would be surveyed by a qualified noxious weed authority that would identify all noxious weeds present and provide a list to the authorized officer. A determination would be made by the authorized officer of any noxious weeds that may require flagging for treatment. Treatment would be according to instruction of the authorized officer. Any use of herbicides in California would be handled by properly licensed county agricultural agents.

All equipment would be washed prior to entering the work area to prevent the spread of invasive weeds from other areas, and all disturbed soils would be seeded using native species to help prevent the establishment of noxious weeds in the future. Construction supervisors and managers would be educated on weed identification and the importance of controlling and preventing the spread of invasive non-native species infestations. Gravel and/or fill material to be placed in relatively weed-free areas would come from weed free sources. Certified weed-free imported materials (or rice straw in upland areas) would be used. Appendix E contains lists of weed species of concern for the project. Wash stations would be established to clean equipment of noxious weed seed and plant parts at major transitions between agricultural and desert lands, state lands, and near the Imperial-San Diego County line, and other point designated by the BLM Authorized Officer.

2.4.2.7 Fire Control

Construction contractors would follow fire management protocols as specified in their contracts. Contractors would be responsible for determining the fire activity level for the next day and complying with contract provisions for that predicted activity level, including equipment for each crew and the types of activities that would be restricted during high activity levels.

As part of construction, each contractor would designate a person to contact the BLM Fire Management Officer daily to determine the fire activity level for the next day's work. During construction scheduling, project engineers would coordinate the construction schedule to minimize fire season conflicts by coordinating with BLM Field Offices.

A fire prevention plan would be prepared and would include potential fire hazards, names or job titles of key fire prevention personnel, and housekeeping procedures. Training and maintenance procedures also would be identified. [8 CCR 3221 Fire Prevention Plan]

2.4.2.8 Human Health and Safety

AT&T would develop a Safety and Health Plan and use construction practices that follow recommendations regarding fire hazards and accident prevention. The Safety and Health Plan would be consistent with 29 CFR 1910 (Occupational Safety and Health Administration [OSHA] Occupational Safety and Health Standards) and 29 CFR 1926 (OSHA Safety and Health Regulations for Construction). The Safety and Health Plan would identify the site physical hazards, site chemical hazards, and the physical hazards of the proposed operations.

Traffic safety measures would be in accordance with U.S. Department of Transportation standards for traffic control to protect worker and public safety in California.

A safety plan conforming to California Occupational Safety and Health Administration (CalOSHA) regulations would be in place prior to beginning construction. Unexploded ordnance (UXO) training would be included.

A traffic control plan conforming to TXDOT, New Mexico Department of Transportation (NMDOT), Arizona Department of Transportation (ADOT), and California Department of Transportation (CalTrans) standards would be in place prior to beginning construction. Appropriate traffic control measures would be instituted whenever required by the plan.

All personnel would be safety-trained prior to beginning work on this project, including construction workers as well as supervisors and monitors.

2.4.3 Reclamation

Upon completion of the project, the ROW would be restored to approximate pre-construction conditions. Special attention would be given to restore the ROW to a condition that would restrict vehicular traffic as identified by authorized agencies. AT&T would conform to BLM Reclamation Plan Guidelines (Appendix D).

Areas identified by the BLM or the project engineer would be re-seeded with seed mix and techniques approved by the BLM Field Office having jurisdiction. Seeding would be done following construction activity and only at times when weather, moisture, and other conditions at the site are favorable, under advisement from the BLM. Seed would meet or exceed live seed requirements for application rates and be determined viable through germination tests. Seed would be BLM-approved specified varieties and free from noxious weeds.

2.4.4 Operation and Maintenance

Maintenance of the proposed fiber optic telecommunication system would consist of monitoring, testing, and repairing equipment, as appropriate. Twice annually, AT&T representative(s) driving a standard maintenance vehicle would visually inspect the ROW and Op Amp facilities along the entire project route. Some existing access roads may be maintained, as necessary, to allow safe access for maintenance

workers and equipment and to prevent degradation of roads or surrounding public land.

No ground disturbance or other invasive activities would be needed for routine operation and maintenance of the system. Access to the fiber optic line would be from the handholes and manholes. Most maintenance activities would occur within the Op Amp facilities. For the route section on Camp Pendleton, an Operation and Maintenance Plan would be compiled and submitted to Camp Pendleton Public Works Department for review and approval.

In the event of a cut cable, AT&T would within one-half hour notify all affected carriers and within three hours would dispatch a local contractor to the site. The local contractor would require a truck and one or two backhoes to uncover the problem. Depending on the situation causing the cut cable, the cut either would be repaired immediately or temporarily. A temporary repair would involve installation of a temporary "loop" of cable to continue transmitting the signal until the system could be replaced underground. A temporary repair would occur only when site-specific conditions prohibit an immediate full repair (e.g., natural disaster, washed-out stream) because other non-related repairs to the site must occur first.

2.4.5 Abandonment

At the end of the useful life of the proposed project when it is no longer possible to upgrade, structures at the Op Amp facilities would be removed from the ROW according to the terms of the ROW grant. Underground facilities would be abandoned in place to minimize future ground disturbance. The subsequent land use would be determined by BLM management plans, local zoning, and/or landowner desires, as applicable.

Following abandonment and removal of the Op Amp facilities, any areas leveled for equipment would be recontoured as near as is feasible to their pre-existing condition. Similarly, areas disturbed and stripped of vegetation during the dismantling process would be re-graded and seeded with seed and methods approved by BLM to prevent erosion.

If AT&T does not wish to keep the ROW for future use after the facilities are removed from the ROW, AT&T would relinquish its interest in the easement, thus returning all rights to the owners of the underlying fee title.

2.5 LAND USE AND ACCESS REQUIREMENTS

2.5.1 Access

Since adequate access roads already exist for the AT&T ROW, construction of new access roads would not be required and would not occur on public land. In Links Four and Five the route parallels existing state and county roadways. All access to the construction corridor would be at pre-designated or permitted locations. After work hours, all vehicles would be parked on the pre-disturbed corridor. Rolled maps depicting access are on file at individual BLM field offices.

Construction entrances would be located at each Op Amp facility. A construction entrance is a graveled area or pad located at a point where vehicles enter and exit a construction site. These entrances would be placed wherever traffic would leave a construction site and move directly onto a public road. Construction plans would limit traffic to properly constructed entrances.

Gates on established roads on public land would be left as found or as designated by the BLM. AT&T would permit free and unrestricted public access to and upon the ROW for all lawful purposes. However, specific areas designated as "restricted" by the BLM would be closed for the protection of the public, wildlife, livestock, or facilities under construction within the ROW.

2.5.2 Land Status

The proposed project crosses federal and several non-federal jurisdictions. Table 2-1 indicates the mileage of surface management responsibility for the route. Existing ROW generally range from 40 feet for public land to 16.5 feet for private land. Figure 1-1 displays an area map of the route, and Appendix A contains color maps that display the route at 1:100,000 scale and also provide land status.

Table 2-1
Land Status

Surface Management Responsibility	Miles
Link One	
BLM	50
Other Federal Land	8
State (Texas)	8
State (New Mexico)	19
Private/Local Government	221
Link One Total	**306**
Link Two	
BLM	61
State (Texas)	3
State (New Mexico)	25
State (Arizona)	64
Private/Local Government	167
Link Two Total	**320**
Link Three	
BLM	41
State (Arizona)	39
Private/Local Government	246
Link Three Total	**326**
Link Four	
BLM	54
Federal Land	12
Tribal Land	3
State Land (CA)	1
Private/Local Government	150
Link Four Total	**220**
Link Five	
Military	19
Private/Local Government	132
Link Five Total	**151**
Project Total	**1323**

2.5.3 Fences and Range Improvements

Breaks or openings in a natural barrier or fence used for livestock control would be temporarily fenced to prevent passage of livestock. Each fence crossed by the 40-foot ROW would be braced and secured to prevent slacking of the wire before cutting the wire for cable construction.

Any fence openings created during construction would be temporarily closed, as necessary, to prevent passage of livestock. Upon completion of construction and restoration, all fences and other range improvement projects would be re-established to a condition equal to or better than the original.

2.5.4 Other Land Uses

Permittees and other regular users of federally administered land would be notified in advance of any construction activity that might affect their businesses or operations (e.g. grazing, recreation use, etc.). This would include such items as posting signs for work on or adjacent to roadways, removing and/or cutting fences, and disturbing improvements or other land-use-related structures. Fenced private property such as orchards and cropland areas would be accessed by gates where possible.

2.5.5 Survey Monuments

AT&T would protect all public survey monuments affected by or adjacent to the ROW. Survey monuments include, but are not limited to the General Land Office (GLO) and BLM Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. If any of the above were obliterated or disturbed, AT&T would report the incident, in writing, to the BLM and the respective installing authority, if known. If BLM or GLO ROW monuments or references were obliterated during operations, AT&T would secure the service of a registered land surveyor or a BLM cadastral surveyor to restore the disturbed monument. Restoration would follow procedures found in the Manual of Surveying instructions for the Survey of the Public Lands of the United States, latest edition. AT&T would record such survey in the appropriate county and send a copy to the BLM. If a BLM cadastral survey crew restores the disturbed survey monument, AT&T would be responsible for the cost of such survey.

2.6 RESOURCE PROTECTION

This section contains a description of practices that would be incorporated into project construction to protect natural resources along the route. Resource protection that is more specific in nature (e.g., mitigation measures particular to a certain special-status species) is listed in Appendix F. A detailed Biological Evaluation for the California portion of the project has been prepared and submitted to the BLM Riverside Field Office.

2.6.1 Vegetation

Since the exact movement/placement of vehicles/equipment around each Op Amp facility is uncertain, AT&T would not completely denude the area around each site. Within 100 feet of each facility, any salvageable individual federal or state listed plant species of concern or species which would provide habitat for wildlife species of concern would be relocated outside the impacted area.

Where construction areas are subject to strong erosional forces, special mulching practices or matting would be used to promote physical stabilization prior to vegetation re-establishment. The Lordsburg playa (Link Two) is an example of an area of special concern that would require special erosion control practices because the soil is very prone to wind erosion.

Riparian areas with the potential to provide habitat for species of concern would be identified prior to construction, and buffer zones of at least 20 feet would be established around these areas. Temporary construction fencing would be used to establish the buffer zones. In areas of scattered riparian vegetation it may be possible to plow or trench a dry wash and avoid the buffered riparian vegetation. If such

avoidance were not possible, conduits would be installed by directional bore or bridge hang.

Construction monitoring would be performed to ensure that impacts on riparian areas are minimized.

Mature trees/columnar cacti would be avoided by minor realignment or directional bore. Where removal is necessary, salvageable specimens would be replanted.

For plant species listed as threatened or endangered (federal or state), qualified botanists would establish 20-foot exclusion zones around individuals and populations. Exclusion zones would be flagged and staked in the field and marked on maps prior to construction. No surface disturbing activity would be permitted within the exclusion zones.

Impacts on threatened or endangered plant species would be avoided by shifting the conduits or by directionally boring at least 10 feet beneath them.

2.6.2 Wildlife

The following measures will be employed to minimize potential impacts to wildlife species:

Plowing and trenching activities along the fiber optic cable system route will be limited to a 40 foot wide area of maximum disturbance, except in designated sensitive resource areas (e.g., threatened, endangered, and special status species habitat, wetlands, and seasonal drainages) where the construction corridor will be limited to 25 feet wide.

All material stockpiling areas and staging areas will be located within the construction corridor on non-sensitive areas or at designated and approved off ROW disturbed sites.

Any open trenches will be filled with existing spoils or material imported from an existing commercial borrow site, or covered with plywood or other plate at the end of each workday.

Before covering open trenches at the end of a workday, both ends of the trench will be sloped to form escape ramps.

Wildlife found in the trench will be removed by a qualified permitted biological monitor before resumption of work in that trench segment. AT&T will specify this requirement in the agreements with all construction contractors.

Construction activities in desert areas (Palo Verde to Brunt's Corner and Ocotillo to Pine Valley) will be restricted to daylight hours to minimize impacts on nocturnal and migratory species.

All stakes, flagging, and fencing used to delineate and protect any environmental or cultural feature in the project area will be removed no later than 30 days after construction and restoration are complete.

In addition to resource protection measures adopted as part of the project during the planning phase, special status species or other species of particular concern would be considered during project implementation in accordance with BLM guidance. In addition to the surveys conducted in support of this analysis, supplemental surveys for species of concern would be conducted in temporary use areas that may be proposed during construction. If species of concern were found, the same measures that apply to the mitigation of impact in this document would be applied in the new areas.

The fiber optic system would be installed by hanging two four-inch ducts underneath the I-10 bridge crossing the Lower Colorado River in order to eliminate any impacts to potential Yuma clapper rail habitat.

2.6.3 Soils and Erosion Control

Temporary waterbars or baffles would be used to direct water runoff away from the construction ROW into energy-dissipating devices.

Temporary sediment barriers (such as sedimentation fences and certified weed-free straw bales) would be placed at the base of slopes adjacent to all road or waterbody crossings where vegetation has been disturbed to prevent sediment migration off-site. These barriers would remain in place until revegetation measures are judged successful.

Where trenching is necessary on steep slopes, erosion control measures such as trench plugs, waterbars, or baffles would be placed in the trench.

Trench plugs would be used on slopes adjacent to water bodies and wetlands, or in agricultural fields and residential areas, if needed.

Where sediment is transported onto a public road surface or other paved area by equipment or vehicles accessing the construction site, sediment would be removed immediately.

As weather conditions dictate, temporary sediment barriers (sand bags, silt fences, or hay bales) would be strategically placed to prevent water flow off-site into waterways or storm drain inlets.

In general, topography would not be modified by the project except for building pads on the Op Amp facilities. Where minor changes in contours occur during construction along the conduit installation route, the area would be returned to its pre-construction contours through reshaping if indicated by the BLM.

Dust and blowing sand would be controlled where needed by tandem axle, diesel powered watering trucks. Each truck is fitted with a 3500 to 4000 gallon water tank and spray bars on the front and rear, which are electronically controlled from inside the cab.

2.6.4 Cultural Resources

An intensive pedestrian survey was conducted for the entire project area, ancillary facilities, and equipment staging areas. Identification and evaluation of historic properties, and land assessment and resolution of adverse effect will be determined through consultation by the BLM, State Historic Preservation Officers (SHPO), and consulting parties, pursuant to Section 106 of the National Historic Preservation Act and implementing regulations (36 CFR 800). Consultation is on a state-by-state basis and Memoranda of Agreement are being developed by the BLM, SHPOs, and consulting parties. Treatment plans may include avoidance measures, measures to minimize and mitigate adverse effects, monitoring during construction, and a process for consultation about inadvertent discoveries made during construction.

Prior to construction, those cultural resources for which avoidance has been determined to be appropriate will be flagged and staked on the ground and marked on maps as “sensitive” resources. In order to preserve confidentiality and protect the resources, no further description will be provided. Ground disturbing activities will be prohibited within the flagged area. A qualified archaeologist approved by BLM will monitor those cultural resources during construction activities to further ensure their avoidance and protection.

A Cultural Resources Monitoring and Discovery Plan will identify general and specific measures to minimize potential impacts to historic properties. If previously undocumented cultural resource sites or subsurface components of documented sites are encountered during construction, activities will stop in the vicinity of the discovery, and the Cultural Resources Monitoring and Discovery Plan will be followed.

If human remains are encountered during construction, all work will immediately stop in the vicinity of the discovery, and the remains will be protected in place. If the discovery is on federal land, the BLM and/or appropriate federal agency will be notified immediately; if state or private land, the appropriate state authorities will be notified immediately; if tribal lands, the appropriate tribal government will be notified immediately. After BLM has verified that the appropriate federal or state laws have been met to the satisfaction of the appropriate land owning agency or tribe, construction may proceed.

Indirect impacts will be controlled by limiting access to cultural resources, educating employees about the significance of cultural resources, and implementing a strict management policy restricting the casual collection of artifacts from the project area. All construction and monitoring personnel will be briefed on protective measures implemented for cultural resources and the importance of resource preservation.

For Link Two in Pima County, Arizona a visual shield would be attached to the Cienga Creek Bridge to hide the two AT&T conduits presently exposed along the east side of the bridge.

2.6.5 Visual Resources

For identified locations within the Guadalupe Escarpment Scenic Area and near Carlsbad National Park, large boulders and other large subsurface rock materials left after construction would be randomly scattered along the ROW. Some larger boulders shall be hauled away from the ROW or treated with rock stain to blend with surrounding landscape colors.

2.6.6 Recreation and Wilderness

In the vicinity of Algodones Dunes Recreation Area, construction activities would be limited from November 16 through June 14 to work only Tuesday through Thursday to avoid conflicts with OHVs south of Highway 78.

No construction equipment would be staged over the weekend in the dunes area.

2.6.7 Air Quality and Noise

2.6.7.1 Air Quality

The project would meet federal, state, and local emission standards for air quality. Speed of vehicle traffic associated with the project on unpaved roads would be limited to 20 miles per hour (mph). Disturbances to the soil protective mechanisms (i.e., the algal crusts, desert pavement, and vegetation) would be minimized by limiting the construction corridor to 40 feet in width.

Air quality impacts would be limited through good maintenance practices on all construction, backup generators and maintenance equipment. Equipment would be maintained and properly tuned. In populated locations watering of access roads would be conducted as specified in locally-obtained permits to control particulate emissions during construction. Burning of construction debris would not be allowed in the project area. Work areas and soil stockpiles would be watered for dust suppression, especially prior to excavation and backfill.

2.6.7.2 Noise

All equipment would be properly tuned and construction would only occur in daylight hours when noise sensitivities for sensitive receptors are at their lowest.

2.6.8 Water Resources

The ephemeral rivers, streams, and washes would be crossed using the plowing technique for minor washes (no signs of scouring present and usually sloping banks) and trenching for major washes (signs of scouring present). The depth of burial in channels would vary from 48 to 60 inches, with the greater depth being used for major washes that show evidence of scouring (e.g., channeling, existing erosion signs, or vertical banks). In channels with cut banks, the existing ROW ramp into the channel bottom would be used.

Riparian areas with the potential to provide habitat to species of concern would be identified prior to construction, and buffer zones of at least 20 feet would be established around these areas. Temporary construction fencing would be used to establish the buffer zones. If buffer zones cannot be avoided with plowing or trenching, the conduit bundle would be installed by directional boring beneath the area.

Where ephemeral washes are to be crossed by trenching or plowing, pre-construction contours and compaction would be restored within 48 hours after the conduit installation is complete. Trenching or plowing would only be used where riparian vegetation can be successfully avoided, and would occur only when the wash is dry and no rain event is predicted within 72 hours.

Except for ephemeral washes, all other uncontained water bodies would be directionally bored at least 5 feet below the bottom of the water body or watercourse, or the conduit would be hung from existing

bridge structures. In California, each dry uncontained water body would be directionally bored at least 10 feet beneath the bottom of the water body.

Contained waters (generally irrigation and drainage ditches, and canals in culverts) may be crossed by trenching over or beneath the culverts where trenching can occur without risk of damage to the culvert and is approved by the culvert manager or owner. Otherwise, such waters would be directionally bored.

All wetlands and a 20-foot exclusion zone around them would be flagged and staked in the field and marked on maps prior to construction. No surface disturbing activity would be permitted within the exclusion zones.

Impacts on all wetlands would be avoided by shifting the conduits to avoid the wetland or by directionally boring beneath them with at least 10 feet of depth below the bottom of the wetland.

The conditions of the SWPPP would be imposed on all construction activities to limit sedimentation of surface waters. The SWPPP is included as Appendix C.

For the playa lake bed crossed by Link Two located in the Animas Valley of western New Mexico, plowing depths may be more shallow than the typical 42 inch depth to avoid subsurface hydrologic disturbance to the lake bed bottom.

On Camp Pendleton, all water bodies would be directionally bored, with the exception of San Mateo Creek, San Onofre Creek, and Santa Margarita River, which would be crossed using a bridge hang on the existing bridges. Handholes will be placed at sufficient distances from the bridges to allow emergency maintenance service by temporary aerial cable placement in the event of bridge failure.

Water to be used during the conduit installation phase would include water needed for directional drilling and water needed for dust control. All water used would be obtained from private sources not on the ROW and no natural water sources would be tapped for construction use.